

MINERAL INDUSTRY SURVEYS

Gordon P. Eaton, Director

Reston, VA 20192

For information, contact

M. Michael Miller, Commodity Specialist

Telephone: (703) 648-7716, Fax: (703) 648-7722

E-mail: mmiller1@usgs.gov

Linda Wood (Data), (703) 648-7956

MINES FaxBack: (703) 648-4999

Internet: <http://minerals.er.usgs.gov/minerals>

FLUORSPAR IN THE SECOND QUARTER 1997

Second quarter trade data display the expected drop in acid-grade fluorspar prices. The average value for imported Chinese acid grade was about \$136 per metric ton (C.I.F. Gulf of Mexico), and may have in fact been even lower. The average value for imported South African acid grade was about \$129 per ton (C.I.F. Gulf of Mexico).

On July 28, 1997, the Defense National Stockpile Center (DNSC) awarded about 85,100 tons (93,800 short dry tons) of acid grade fluorspar for a total value of \$4.5 million to Seaforth Mineral & Ore Co. (Cleveland, OH), Sogem-Afrimet Inc. (New York, NY), and Great Lakes Fluorspar Inc. (Cleveland, OH). The DNSC accepted lower bids for this material because of product quality problems and time pressures related to the closure of the Memphis Depot. This sale completed the disposal of acid grade under the Fiscal Year 1997 Annual Materials Plan (Defense Logistics Agency, 1997).

Elf Atochem has completed construction of its new HFC-134a plant in Calvert City, KY. The plant has a capacity of 18.1 million kilograms (40 million pounds). The plant will be operated by Elf Atochem North America and will produce refrigerants for use in automobiles, refrigerators, and freezers, primarily for the North American market (Elf Atochem, N.A., 1997).

Solvay S. A. has agreed to acquire all the outstanding shares of Okorusu Holdings Ltd., owner of the Namibian fluorspar mining company Okorusu Fluorspar (Pty) Ltd. Metallurgical-grade fluorspar was produced from the same ore body during the 1950's and 1970's. The current mining operation consists of an open pit mine and flotation mill with a capacity of about 50,000

tons per year of acid grade. According to Solvay, the mine has reserves for over 20 years. The fluorspar will be shipped to Rotterdam where it will be transported by barge to Solvay's main fluorochemicals plant at Wimpfen, Germany (Solvay S.A., 1997).

On December 27, 1996, the Environmental Protection Agency proposed new rules for regulating the emissions of fluorides from phosphoric acid plants. The new rules, which are scheduled for implementation in February 1998, lower the emission limits from 10 grams per ton of P_2O_5 fed into the acid plant to 6.75 grams per ton. This rule has been proposed for new plants, but would also affect capacity expansions. Many acid plants are probably already meeting this standard. These new rules, however, may have the effect of increasing the future supply of byproduct fluoro-silicic acid, which in the United States is used for fluoridation of drinking water and to manufacture aluminum fluoride (Leyshon, 1997).

References Cited

- Defense Logistics Agency, 1997, Stockpile Accepts Acid Grade Fluorspar Offer: Ft. Belvoir, VA, Defense National Stockpile Center press release, July 29, 1 p.
- Elf Atochem N.A., 1997, Elf Atochem Opens its Largest Forane 134a Refrigerator Plant in Calvert City, Kentucky: Calvert City, KY, Elf Atochem N.A. press release, April 10, 1 p.
- Leyshon, D.W., 1997, New EPA limits for fluoride emissions: Phosphorus and Potassium, no. 209, May-June, p. 34-41.
- Solvay S.A., 1997, Solvay Invests in Namibia: Acquisition of Fluorspar mine in support of Group's growing fluorine activities: Brussels, Solvay S.A. press release, July 16, 2 p.

TABLE 1
SALIENT FLUORSPAR STATISTICS 1/

(Metric tons unless otherwise specified)

	Second quarter 1996	Third quarter 1996	Fourth quarter 1996	First quarter 1997	Second quarter 1997	Total year to date 1997
Imports for consumption	118,000	127,000	88,200	154,000 r/	137,000	291,000
Value per ton, c.i.f. U.S. port, acid grade	\$141	\$145	\$142	\$141	\$135	\$138 2/
Value per ton, c.i.f. U.S. port, metallurgical	\$97	\$99	\$120	\$95	\$86	\$91 2/
Exports	6,950	17,500	28,300	12,600	14,200	26,800
End of quarter stocks: consumer 3/	103,000	117,000	99,200	143,000	118,000	118,000
Fluorspar equivalent of imported hydrofluoric acid 4/	39,800	34,600	18,100	32,100	52,500	84,600
Fluorspar equivalent of imported cryolite	2,430	1,750	1,570	2,350	2,030	4,390
Quarterly reported fluorspar consumption	119,000	140,000	131,000	128,000 r/	129,000	257,000

r/ Revised.

1/ Data are rounded to three significant digits.

2/ Average value for year to date 1997.

3/ Does not include material purchased from the National Defense Stockpile by traders or indirect consumers.

4/ Does not include hydrofluoric acid from foreign trade zone.

TABLE 2
CONSUMPTION OF FLUORSPAR BY END USE AND ASSAY RANGE 1/
(DOMESTIC AND FOREIGN IN THE UNITED STATES)

(Metric tons)

End use or product	First quarter 1997			Second quarter 1997			1997 Year to date
	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total	
Hydrofluoric acid and aluminum fluoride	116,000	--	116,000	116,000	--	116,000	231,000
Basic oxygen furnaces	--	2,770 r/	2,770 r/	--	2,490	2,490	5,260
Electric furnaces	W	5,080	5,080	W	5,770	5,770	10,900
Other uses or products 2/	3,280	1,370	4,650	3,030	1,800	4,830	9,480
Total	119,000	9,220 r/	128,000 r/	119,000	10,100	129,000	257,000
Stocks, end of quarter	131,000	12,400	143,000	103,000	14,200	118,000	118,000

r/ Revised. W Withheld to avoid disclosing company proprietary data.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes acid grade used in electric furnaces, enamel, glass and fiberglass, steel castings, and welding rod coatings.

TABLE 3
U.S.IMPORTS FOR CONSUMPTION OF FLUORSPAR, BY COUNTRY 1/ AND VALUE 2/ 3/

(Metric tons unless otherwise specified)

	Second quarter 1996		Third quarter 1996		Fourth quarter 1996		First quarter 1997		Second quarter 1997		Total year to date 1997	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Containing more than 97% calcium fluoride:												
Austria	--	--	175	\$58	173	\$39	34	\$30	47	\$32	81	\$62
China 4/	48,600	\$71,100	98,700	14,300	61,800	8,900	103,000 r/	14,600 r/	93,400	12,700	197,000	27,300
France	--	--	36	19	--	--	18	9	18	9	36	18
Mexico	4,550	631	5,810	788	4,180	602	8,830	1,260	1,490	198	10,300	1,460
South Africa	42,800	5,760	15,900	2,270	20,300	2,710	25,000	3,400	24,900	3,210	49,800	6,610
Total	96,000	13,500	121,000	17,400	86,500	12,300	137,000 r/	19,300 r/	120,000	16,100	257,000	35,500
Containing not more than 97% calcium fluoride:												
Canada	70	23	83	28	157	55	97	35	123	52	220	87
Germany	--	--	--	--	194	20	1	6	--	--	1	6
Mexico	21,600	2,070	6,010	575	1,390	133	16,500	1,540	17,100	1,430	33,500	2,970
Total	21,700	2,100	6,090	603	1,740	208	16,600	1,580	17,200	1,480	33,800	3,070

r/ Revised.

1/ Imports for consumption include imports of immediate entry, and warehouse withdrawals.

2/ C.i.f. at U.S. ports.

3/ Data are rounded to three significant digits; may not add to totals shown.

4/ Data does not agree with published Bureau of the Census data due to adjustments made by the U.S. Geological Survey.

Source: Bureau of the Census.

TABLE 4
IMPORTS FOR CONSUMPTION OF HYDROFLUORIC ACID 1/

(Metric tons unless otherwise specified)

	Second quarter 1996		Third quarter 1996		Fourth quarter 1996		First quarter 1997		Second quarter 1997		Total year to date 1997	
	Quantity	Value 2/ (thousands)	Quantity	Value 2/ (thousands)	Quantity	Value 2/ (thousands)	Quantity	Value 2/ (thousands)	Quantity	Value 2/ (thousands)	Quantity	Value 2/ (thousands)
Canada	32	\$105	39	\$99	18	\$63	1,870	\$2,310	6,930	\$8,020	8,800	\$10,300
France	54	57	107	124	56	64	73	91	111	125	184	216
Germany	20	45	23	73	72	118	38	99	77	146	115	245
Greece	--	--	--	--	--	--	19	20	--	--	19	20
Japan	174	643	138	519	198	710	154	588	253	894	407	1,480
Mexico	26,200	24,600	22,800	21,300	11,700	11,000	19,300	18,100	25,100	23,500	44,400	41,600
United Kingdom	--	--	--	--	--	--	--	--	19	23	19	23
Total	26,500	25,400	23,100	22,100	12,100	12,000	21,400	21,200	32,500	32,700	53,900	53,900

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ C.i.f. at U.S. ports.

Source: Bureau of the Census.